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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,594	06/26/2001	Akihiro Kimura	35.C15497	8658

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EXAMINER

KRISHNAN, SUMATI

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/888,594	Applicant(s) KIMURA ET AL.	
	Examiner Sumati Krishnan	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☒ Claim(s) 5-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Jindai (US 6582268).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Jindai discloses an electron source manufacturing apparatus comprising a support 215 having a groove 221 on its surface, which supports a substrate 210 having a conductor formed thereon (see figure 14a) wherein the support has a temperature adjuster (chuck 216) for adjusting a temperature of the substrate, a vessel which has a gas inlet port and gas exhaust port and covers part of the substrate (inlet 220 and exhaust 219), a gas

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controller (inlet 220 and exhaust 219), a voltage applier for applying a voltage to the conductor (wiring lead patterns 211), wherein a periphery of a region where the conductor is formed on the substrate is arranged along the groove. Please see figure 11 in combination with figure 14a. The electron source substrate 210 is analogous to the substrate 91 in figure 14a. This substrate has conductors located throughout its surface. Picturing an exploded view of figure 11, it is evident that the groove 221 on support 215 makes an indentation or rectangular “groove” on the entire support 215 excepting the periphery, so that the periphery of the support is at one level and the inner part of the support is indented and located at a level lower than the periphery. The entire indent in the substrate is what is considered the “groove.” Therefore, each conductor located on the substrate 210 (see figure 14a) has a periphery area that is located “along the groove” considering that the groove is the entire inner part of the support 215 and the conductors. The peripheries of the conductors (which are in fact located throughout the substrate 210) match up with the indentation or groove of the support.

Regarding claim 2, Jindai discloses the substrate having a plurality of conductors each comprising a pair of electrodes and a conductive film formed between the electrodes, see figure 14a.

Regarding claim 3, Jindai’s vessel covers part of the substrate and forms a space including the conductor wherein the space is defined by the vessel and the substrate, see figure 11.

Regarding claim 7, the periphery area of the conductors located on the substrate are arranged along the groove as explained above and are between opposed walls of the groove, since they are spatially located in the indented region, thus within the walls of the groove.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jindai (US 6582268). Jindai doesn't specifically disclose a rectangular shape for the groove. However, Jindai discloses that the chuck which is located on the groove, having the same shape as the groove (figure 11), is positioned in order to prevent the substrate from breaking or cracking. The shape of the substrate is rectangular and the shape of the vacuum chamber is rectangular. Therefore, it would have been obvious to one of ordinary skill in the art to design the groove in a rectangular shape in order to fit the rest of the invention's components. Moreover, it is well known in the art to design system components in various shapes when needed. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the groove rectangular because such a shape would suit the corresponding system components.

Response to Arguments

Applicant's arguments filed 12/01/03 have been fully considered but they are not persuasive. Examiner wishes to clarify that the claims do not state that the groove is located on

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the periphery of the support. The claims instead state that the periphery of the conductors are located along the groove. As explained above, this limitation reads on the Jindai reference.

Allowable Subject Matter

Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither shows nor suggests the apparatus of claims 1 or 2 wherein one end of the groove is located not less than 1 mm inward from the periphery or wherein one end is located not less than 10 mm outward from the periphery.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumati Krishnan whose telephone number is 703-305-7906. The examiner can normally be reached on 8:00 am - 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

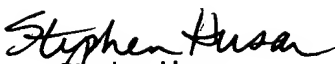
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February 23, 2004


Stephen Husar
Primary Examiner